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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,012	06/13/2005	Masahiro Morooka	S1459.70047US00	6931
23628	7590	06/11/2008		
WOLF GREENFIELD & SACKS, P.C. 600 ATLANTIC AVENUE BOSTON, MA 02210-2206			EXAMINER TUMMINELLI, ALEXANDER S	
			ART UNIT 1795	PAPER NUMBER
			MAIL DATE 06/11/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/511,012

**Applicant(s)**

MOROOKA ET AL.

**Examiner**

ALEXANDER S. TUMMINELLI

**Art Unit**

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_
- Paper No(s)/Mail Date 20041012 20061214 20070607 20070702



**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1 rejected under 35 U.S.C. 102(b) as being anticipated by Takeuchi (JP 08-088030).

Regarding claim 1, Takeuchi teaches an electrolyte comprising an electrolyte composition and a matrix polymer,

- wherein the matrix polymer is a polymer formed by polymerization of a first compound having at least two isocyanate groups and a second compound having at least two nucleophilic groups containing active hydrogen (paragraphs [0021] and [0022]).

Regarding claim 2, Takeuchi teaches all of the limitations as stated above.

Takeuchi also teaches the electrolyte, wherein the electrolyte composition comprises a solvent to form a gel electrolyte (paragraph [0032]).

Regarding claim 3, Takeuchi teaches all of the limitations as stated above.

Takeuchi also teaches the electrolyte, wherein the electrolyte composition comprises no solvent to form a solid electrolyte (paragraph [0033]).

Regarding claim 4, Takeuchi teaches all of the limitations as stated above.

Takeuchi also teaches the electrolyte, wherein the electrolyte composition comprises an ionic liquid to form a gel electrolyte (paragraph [0032]).

Regarding claim 5, Takeuchi teaches all of the limitations as stated above.

Takeuchi also teaches the electrolyte, wherein the electrolyte composition comprises a redox couple (paragraph [0036]).

Regarding claims 6 and 7, Takeuchi teaches all of the limitations as stated above. Takeuchi also teaches the electrolyte,

- wherein the redox couple is a combination of a halogen ion and a halide ion (paragraph [0028]), and
- wherein a halogen element portion of the redox couple is iodine (paragraph [0028]).

Regarding claim 10, Takeuchi teaches a method for manufacturing a photocell comprising:

- injecting a mixed solution between a counter electrode and an electrode formed on a surface of a substrate, the mixture containing a first compound having at least two isocyanate groups, a second compound having at least two nucleophilic groups containing active hydrogen, and an electrolyte composition having a redox couple (paragraphs [0021], [0022], and [0036]); and
- polymerizing the first compound and the second compound (paragraph [0023]).

Regarding claim 12, Takeuchi teaches all of the limitations as stated above. Takeuchi also teaches the method for manufacturing a photocell, wherein the polymerizing is performed in accordance with Michael addition reaction (paragraphs [0025] and [0026]).

Regarding claim 13, Takeuchi teaches all of the limitations as stated above. Takeuchi also teaches the method for manufacturing a photocell, wherein the electrolyte composition has a redox couple (paragraph [0036]).

3. Claim 8 rejected under 35 U.S.C. 102(b) as being anticipated by Yonehara et al (JP 2000-306605).

Regarding claims 8 and 9, Yonehara et al teaches a photocell comprising: a semiconductor layer composed of semiconductor particles carrying a dye and an electrolyte layer, the layers being provided between a counter electrode and an electrode formed on a surface of a substrate (paragraph [0108]);

- wherein the electrolyte layer has a redox couple, an electrolyte composition, and a matrix polymer (paragraph [0056]);
- wherein the matrix polymer is a polymer formed by polymerization of a first compound having at least two isocyanate groups and a second compound having at least two nucleophilic groups containing active hydrogen (paragraph [0058]); and
- wherein the substrate is a transparent substrate (paragraph [0125]).

Regarding claim 10, Yonehara et al teaches a method for manufacturing a photocell comprising:

- injecting a mixed solution between a counter electrode and an electrode formed on a surface of a substrate, the mixture containing a first compound having at least two isocyanate groups, a second compound having at least two nucleophilic groups containing active hydrogen, and an electrolyte composition having a redox couple; and
- polymerizing the first compound and the second compound (paragraphs [0056] and [0058]).

Regarding claim 11, Yonehara et al teaches all of the limitations as stated above. Yonehara et al also teaches the method for manufacturing a photocell, further comprising forming a semiconductor layer, composed of semiconductor particles carrying a dye, between the electrode and the counter electrode (paragraph [0108]).

Regarding claim 12, Yonehara et al teaches all of the limitations as stated above. Yonehara et al also teaches the method for manufacturing a photocell, wherein the polymerizing polymerization is performed in accordance with Michael addition reaction (paragraphs [0056] and [0058]).

Regarding claim 13, Yonehara et al teaches all of the limitations as stated above. Yonehara et al also teaches the method for manufacturing a photocell, wherein the electrolyte composition has a redox couple (paragraph [0056]).

Regarding claim 14, Yonehara et al teaches a method for manufacturing a photocell comprising:

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- forming a semiconductor layer composed of semiconductor particles carrying a dye between a counter electrode and an electrode formed on a surface of a substrate;
- applying a first compound having at least two isocyanate groups and a second compound having at least two nucleophilic groups containing active hydrogen; and
- polymerizing the first compound and the second compound (paragraphs [0056] and [0058]).

#### ***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXANDER S. TUMMINELLI whose telephone number is (571)270-3878. The examiner can normally be reached on Monday-Thursday, 7:30am-5pm EST, Alt. Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571)272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AST

/PATRICK RYAN/  
Supervisory Patent Examiner, Art Unit 1795